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IS 4489 (1968): Forceps, Nasal Turbinate, Luc's [MHD 4 : Ear, Nose and Throat Surgery Instruments]

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IS : 4489 - 1968

*Indian Standard*  
**SPECIFICATION FOR  
FORCEPS, NASAL TURBINE, LUC'S**

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BUREAU OF INDIAN STANDARDS  
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NEW DELHI 110002

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June 1968

**Indian Standard**  
**SPECIFICATION FOR**  
**FORCEPS, NASAL TURBINATE, LUC'S**

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( Continued on page 2 )

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( *Continued from page 1* )

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*Indian Standard*  
SPECIFICATION FOR  
FORCEPS, NASAL TURBINE, LUC'S

**0. FOREWORD**

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 29 January 1968, after the draft finalized by the Surgical Instruments Sectional Committee had been approved by the Consumer Products Division Council.

**0.2** The formulation of Indian Standards on surgical instruments has been taken up on the recommendations of the Advisory Committee for Development of Surgical Instruments, Equipment and Appliances, Government of India.

**0.3** This standard is one of a series of Indian Standards on surgical instruments.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**1. SCOPE**

**1.1** This standard lays down the requirements for Luc's nasal turbinate forceps.

**2. MATERIAL**

**2.1** The forceps shall be made of stainless steel conforming to Designation 30Cr13 of Schedule V of IS : 1570-1961†.

**2.2** The screw shall conform to the Designation mentioned in 2.1 or 20Cr18Ni2 of Schedule V of IS : 1570-1961†.

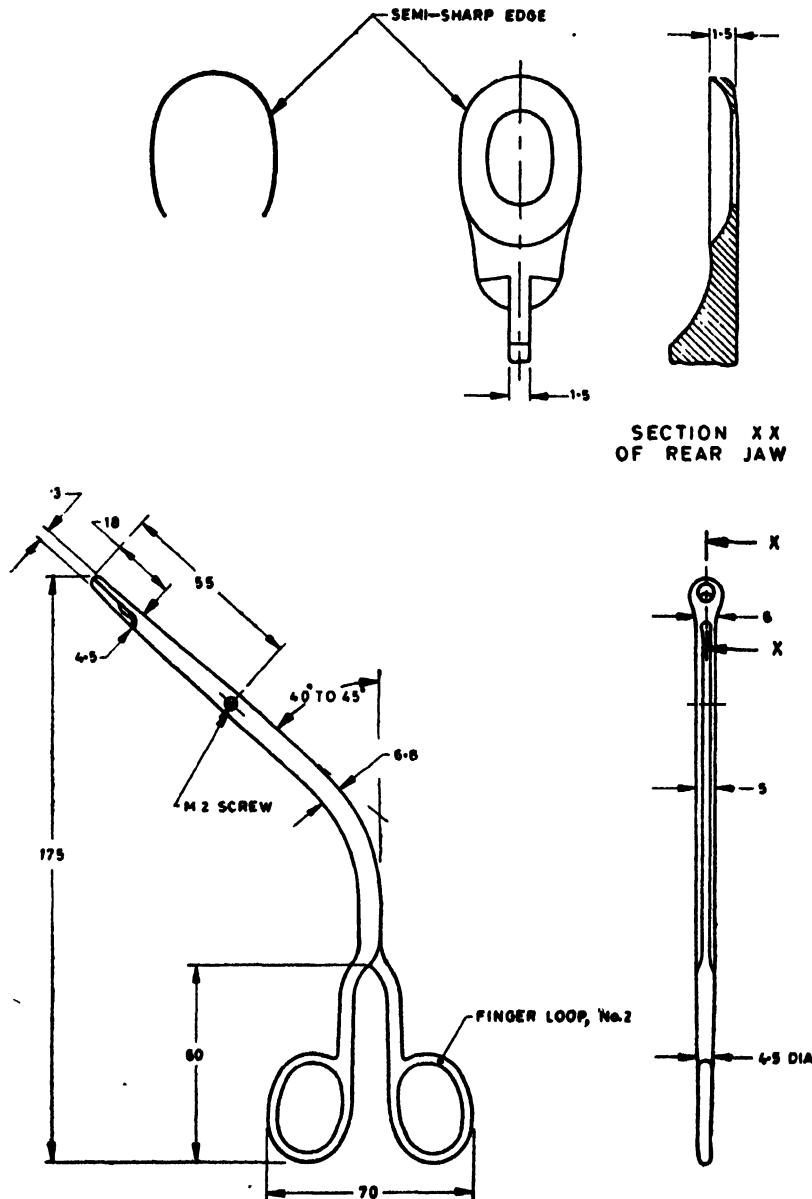
**3. SHAPE AND DIMENSIONS**

**3.1** The general shape and dimensions of the forceps shall be in accordance with Fig. 1 and 2.

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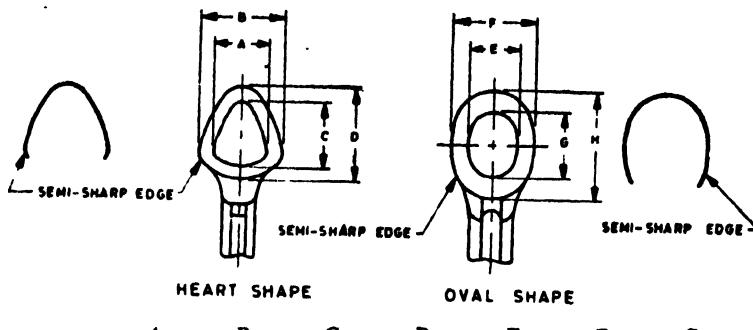
\*Rules for rounding off numerical values.

†Schedules for wrought steels for general engineering purposes.



\*See IS : 9642-1966 'General requirements for surgical instruments'.  
All dimensions in millimetres.

FIG. 1 FORCEPS, NASAL TURBINE, LUC'S PATTERN



All dimensions in millimetres.

FIG. 2 SHAPES OF JAWS OF FORCEPS, NASAL TURBinate,  
Luc's PATTERN

**3.2 Joints** — The joint shall be of the cut-through type. The other requirements for the joint shall conform to 6 of Section 2 of IS : 3642-1966\*.

#### 4. WORKMANSHIP AND FINISH

**4.1** The forceps shall be of a symmetrical and balanced construction and shall open and close with even jerkless movement. The jaws shall be semi-sharp over the periphery as shown in Fig. 2 and shall engage accurately in the closed position. The arms of the forceps shall be free from surface defects, such as scales, burrs, pits, cracks and seams. All sharp edges, except the periphery of the jaws, shall be rounded smooth. The forceps shall be passivated and polished bright.

#### 5. HEAT-TREATMENT

**5.1** The forceps shall be suitably hardened and tempered to give a uniform hardness of 430 to 490 HV.

#### 6. TESTS

**6.1 Performance** — The jaws of the forceps shall be made to bite on a double layer of wet blotting paper. The jaws shall leave a clear impression of the complete semi-sharp edge on the blotting paper. They shall also be similarly tested on a flat 3 mm thick cork or cork sheeting and shall leave a clear impression of the complete semi-sharp edge on the cork.

\*General requirements for surgical instruments.

**6.2 Flexibility** — The jaws of the forceps shall be closed on a 3 mm thick hard rubber piece and the arms pressed fully. No permanent set shall be noticed on the forceps and after this test the forceps shall satisfy the performance test prescribed in 6.1.

**6.3 Corrosion Resistance** — The forceps shall be tested for corrosion resistance as given in 6.3.1.

**6.3.1 Copper Sulphate Test** — The sample shall be scrubbed with soap and warm water, rinsed in hot water, followed by a dip in ethyl alcohol (95 percent) and dried. The sample shall be completely immersed in copper sulphate solution at room temperature for six minutes and shall then be washed off with fresh water or wet cotton wool. The copper sulphate solution shall be made up as follows:

Copper sulphate ( CuSO <sub>4</sub> .5H <sub>2</sub> O )	4.0 g
Sulphuric acid ( H <sub>2</sub> SO <sub>4</sub> ) ( sp gr 1.84 )	10.0 g
Water ( H <sub>2</sub> O )	90.0 ml

There shall be no red stains or spots on the sample after the test, but the polished surface getting dull may be permitted.

## 7. MARKING

**7.1** Each forceps shall be clearly and indelibly marked with the manufacturer's name, initials or trade-mark, in addition to the words 'STAINLESS STEEL'.

**7.1.1** The forceps may also be marked with the ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 8. PACKING

**8.1** The forceps shall be wrapped in moisture-proof paper or polyethylene bag; then they shall be packed in a manner that coming into contact with each other is avoided.

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**AMENDMENT NO. 1      JANUARY 1979**  
**TO**  
**IS : 4489-1968 SPECIFICATION FOR**  
**FORCEPS, NASAL TURBinate, LUC'S**

**Alteration**

*( Page 6, clauses 6.3 and 6.3.1 )* — Substitute the following for the existing clauses:

**'6.3 Corrosion Resistance** — The instrument shall satisfy the boiling and autoclaving test as specified in IS : 7531-1975\*.'

**Addendum**

*( Page 6, foot-note )* — Add the following new foot-note at the bottom of the page:

**'\*Method for boiling and autoclaving test for corrosion resistance of stainless steel surgical instruments.'**

**( CPDC 26 )**

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**Reprography Unit, BIS, New Delhi, India;**